

What is claimed is:

1 1. A computer system provided to operate in multiple
2 operation modes, comprising:

3 a storage device having a first disk partition and a
4 second disk partition, in which the first disk
5 partition stores a first operating system to enable
6 the computer system to boot and run in a first
7 operation mode, and the second disk partition
8 stores a second operating system to enable the
9 computer system to boot and run in a sub-mode of
10 a second operation mode; and

11 a mode controller having a status indicating an operation
12 mode of the computer system,

13 wherein the storage device further comprises a master boot
14 program to detect the status of the mode controller,
15 hide the second disk partition, boot the computer
16 system from the first disk partition, load the first
17 operating system therein, and thereby enable the
18 computer system to run in the first operation mode
19 if the status of the mode controller indicates the
20 first operation mode, and activate the second disk
21 partition, boot the computer system from the second
22 disk partition, load the second operating system
23 therein, and thereby enable the computer system to
24 run in a selected sub-mode of the second operation
25 mode if the status of the mode controller indicates
26 the selected sub-mode of the second operation mode.

1 2. The computer system as claimed in claim 1 wherein the
2 master boot program further sets the memory size of a BIOS data
3 area in the storage device to a predetermined value if the
4 computer system runs in the selected sub-mode of the second
5 operation mode.

1 3. The computer system as claimed in claim 2 wherein the
2 master boot program further purifies an operating environment
3 of the second operating system if the computer system runs in
4 the selected sub-mode of the second operation mode.

1 4. The computer system as claimed in claim 3 wherein the
2 master boot program purifies the operating environment of the
3 second operating system by limiting the use of keyboard and mouse
4 of the computer system, and disabling PNP (Plug and Play)
5 functions of the computer system.

1 5. The computer system as claimed in claim 1 wherein the
2 computer system further executes a monitor program if the
3 computer system runs in the selected sub-mode of the second
4 operation mode, in which the monitor program executes a first
5 application specific to the selected sub-mode of the second
6 operation mode, detects the status of the mode controller, and
7 stops the first application and executes a second application
8 specific to another sub-mode of the second operation mode if the
9 status of the mode controller changes to the another sub-mode
10 of the second operation mode.

1 6. The computer system as claimed in claim 5 wherein if
2 the status of the mode controller changes to the first operation
3 mode, the monitor program further stops the first application,

4 enables the computer system to enter a hibernation state, and
5 reboots the computer system, and wherein if the computer system
6 is turned off, the monitor program further stops the first
7 application and enables the computer system to enter a
8 hibernation state.

1 7. The computer system as claimed in claim 5 further
2 comprising an additional microprocessor to detect the status of
3 the mode controller, and the monitor program detects the status
4 of the mode controller via the additional microprocessor and an
5 input/output interface.

1 8. The computer system as claimed in claim 7 wherein the
2 input/output interface is a serial communication port or a GPIO
3 (General Purpose Input Output) interface.

1 9. The computer system as claimed in claim 7 further
2 comprising an LCD module being controlled by the microprocessor
3 to display the operation mode of the computer system.

1 10. The computer system as claimed in claim 7 further
2 comprising a receiver coupled with the monitor program via an
3 input/output interface to receive a signal from a remote
4 controller, so as to enable the monitor program to execute the
5 first application according to the signal.

1 11. The computer system as claimed in claim 1 wherein the
2 computer system further executes a resident program if the
3 computer system runs in the first operating mode, in which the
4 resident program detects the status of the mode controller,
5 displays a confirmation window if the status of the mode
6 controller changes to a sub-mode of the second operating mode,

7 and reboots the computer system if a confirmation signal is
8 received via the confirmation window.

1 12. The computer system as claimed in claim 1 wherein the
2 sub modes of the second operation mode include music playing
3 mode, a video playing mode, a TV broadcasting mode, a radio
4 receiving mode, and a photo exploring mode.

1 13. The computer system as claimed in claim 12 wherein the
2 mode controller is constructed as a manual control on the
3 computer system.

1 14. A method for operating a computer system in multiple
2 modes, comprising the steps of:
3 providing a storage device having a first disk partition
4 and a second disk partition in the computer system,
5 in which the first disk partition stores a first
6 operating system and the second disk partition stores
7 a second operating system;
8 providing a mode controller having at least one status
9 indicating an operation mode of the computer system;
10 checking the status of the mode controller by a master boot
11 program;
12 if the status of the mode controller indicates that the
13 operation mode of the computer system is a first
14 operation mode, hiding the second disk partition,
15 booting the computer system from the first disk
16 partition, loading the first operating system
17 therein, thereby enabling the computer system to run
18 in the first operation mode; and

19 if the status of the mode controller indicates that the
20 operation mode of the computer system is a sub-mode
21 of a second operation mode, activating the second
22 disk partition, booting the computer system from the
23 second disk partition, loading the second operating
24 system therein, thereby enabling the computer system
25 to run in the sub-mode of the second operation mode.

1 15. The method as claimed in claim 14 further comprising
2 setting the memory size of a BIOS data area in the computer system
3 to a predetermined value by the master boot program if the
4 computer system runs in the sub-mode of the second operation
5 mode.

1 16. The method as claimed in claim 15 further comprising
2 purifying an operating environment of the second operating
3 system by the master boot program if the computer system runs
4 in the sub-mode of the second operation mode.

1 17. The method as claimed in claim 16 wherein the step of
2 purifying the operating environment of the second operating
3 system comprises limiting the use of keyboard and mouse of the
4 computer system, and disabling PNP (Plug and Play) functions of
5 the computer system.

1 18. The method as claimed in claim 14 further comprising
2 executing a monitor program if the computer system runs in the
3 sub-mode of the second operation mode, in which the monitor
4 program executes a first application specific to the sub-mode
5 of the second operation mode, detects the status of the mode
6 controller, and stops the first application and executes a

7 second application specific to another sub-mode of the second
8 operation mode if the status of the mode controller changes to
9 the another sub-mode of the second operation mode.

1 19. The method as claimed in claim 18 wherein if the status
2 of the mode controller changes to the first operation mode, the
3 monitor program further stops the first application, enables the
4 computer system to enter a hibernation state, and reboots the
5 computer system.

1 20. The method as claimed in claim 19 wherein if the
2 computer system is turned off, the monitor program further stops
3 the first application and enables the computer system to enter
4 a hibernation state.

1 21. The method as claimed in claim 19 further comprising
2 providing an additional microprocessor to detect the status of
3 the mode controller, the monitor program detects the status of
4 the mode controller via the additional microprocessor and an
5 input/output interface.

1 22. The method as claimed in claim 21 further comprising
2 providing an LCD module being controlled by the microprocessor
3 to display the operation mode of the computer system.

1 23. The method as claimed in claim 21 further comprising
2 providing a receiver coupled to the monitor program via an
3 input/output interface to receive a signal from a remote
4 controller, and the monitor program operates the first
5 application according to the signal.

1 24. The method as claimed in claim 14 further comprising
2 executing a resident program if the computer system runs in the
3 first operation mode, in which the resident program detects the
4 status of the mode controller, displays a confirmation window
5 if the status changes to a sub-mode of the second mode, and
6 reboots the computer system if a confirmation signal is received
7 via the confirmation window.

1 25. The method as claimed in claim 14 wherein the
2 sub-modes of the second operation mode include a music playing
3 mode, a video playing mode, a TV broadcasting mode, a radio
4 receiving mode, and a photo exploring mode.

1 26. The method as claimed in claim 25 wherein the mode
2 controller is constructed as a manual control on the computer
3 system.